I. SPECIAL REPORTS

MINUTES OF THE WHEAT CROP GERMPLASM COMMITTEE 9 December, 2002. Cincinnati, OH, USA.

Afternoon Session.
Committee members present: Olin Anderson, Harold Bockelman, Kim Campbell (Chair), Elias Elias, Carl Griffey, David Marshall (Secretary), Anne McKendry, Jackie Rudd, and Kay Simmons. Also present were Jim Anderson, Joseph Anderson, Mark Bohning, Robert Bowden, Bikram Gill, Yue Jin, and David Van Sanford.

Chairperson Kim Campbell convened the meeting at approximately 1:30 PM. The minutes of the January 2002 meeting in Orlando, FL, were submitted and accepted by voice acclamation. The minutes were published in the 2002 *Annual Wheat Newsletter* (**48**:4-6) and also distributed previously via E-mail to committee members. Members of the Wheat CGC are Kim Campbell, Carl Griffey, Gina Brown-Guedira, David Marshall, Anne McKendry, John Moffat, Jackie Rudd, and Brian Steffenson. *Ex-officio* members include USDA–ARS curator of the National Small Grains Collection (Harold Bockelman), USDA–ARS National Program Leader in Grains (Kay Simmons); CIMMYT representative (Bent Skovmand); and a Canadian representative (vacant).

A brief history of the Wheat CGC presented by Kim Campbell indicated the former name of the committee (Wheat Crop Advisory Committee) and pointed-out that the objective of the Committee was to serve in an advisory capacity to national wheat (and related species) germ plasm efforts in the collection, cataloguing, preservation, funding priorities, germ plasm enhancement, and open exchange of germ plasm.

Harold Bockelman, curator of the USDA–ARS National Small Grains Germplasm Collection distributed information concerning the collection during 2002. The PI number assignments for all wheat, rye, triticale, and *Aegilops* accessions were disseminated. There are presently greater than 54,000 accessions of wheat and wheat relatives in the collection. Discussion followed on the electronic availability of information in GRIN (Germplasm Resources Information Network) versus seed available for distribution. Mark Bohning (GRIN Database Management Unit) discussed plans underway to modernize the visual appearance of the GRIN website (http://www.ars-grin.gov/), including a shopping-cart approach for ordering seed, a downloadable format for trait files; and links to *Crop Science* registration articles. Discussion followed on the need to access data on GRIN accessions regardless of their seed availability.

Anne McKendry (University of Missouri) expressed concern over the maintenance, storage, and availability of lines that had been selected for Fusarium head blight resistance and subsequently purified, which had been derived from heterogeneous accessions in the National Plant Germplasm Collection. A motion was made by Carl Griffey (Virginia Tech) stating that selections made for Fusarium head blight resistance in heterogeneous germ plasm lines should be purified, increased, and be made available for evaluation in uniform nurseries and entered into the USDA Small Grains Collection. The motion was second by Kim Campbell.

Olin Anderson (USDA–ARS) gave an update on the wheat genomic data in GrainGenes. A committee has been formed to review the wheat genomic database, with emphasis on making the information more usable for researchers.

Kim Campbell gave a synopsis of the Crop Germplasm Committees Chairperson meeting. The National germ plasm system has been greatly expanded and improved in the past 10 years. Approximately USD 3-4 million was proposed by the administration for germ plasm activities in the FY03 budget. At the meeting, additional topics that were discussed included the need to have phytosanitary certificates for all plant material entering the U.S.A., the status of molecular evaluations on plant germ plasm, and the availability of interfacing geographic information systems with germ plasm information.

Mark Dahmer (BASF Corp) presented an overview of the Clearfield® wheat technology. He indicated that the genetics and herbicide (imidazolinone) combination is focused on wheat, canola, corn, rice, and sunflower in the U.S.A. The herbicide-resistance trait (*FS*4) was developed via mutagenesis and is, therefore, not a GMO technology. The key to developing wheat cultivars having resistance to imidazolinone is in partnership with university programs and private breeding companies to breed the *FS*4 trait into adapted material.

Kim Campbell led a discussion of germ plasm collection proposals and priorities. One approved collection trip was for wild wheat and barley in Kazakhstan. A suggestion was made by Elias Elias (North Dakota State University) for a collection in Armenia. Discussion followed on areas needing collection; a suggestion was made to develop a subcommittee to set priority areas for germ plasm collections.

Bikram Gill stressed the need for coördination in the wheat community of work on molecular markers. Goals and objectives for molecular-marker technology and mapping and association analyses need to be realized and perhaps coördinated through the current and proposed USDA–ARS Regional Genotyping Labs.

Evening Session.
Committee members present: Harold Bockelman, Kim Campbell (Chair), Elias Elias, Carl Griffey, David Marshall (Secretary), Jackie Rudd, and Kay Simmons. Also present: Joseph Anderson, Mark Bohning, Robert Bowden, Bikram Gill, Yue Jin, Akos Mesterhazy, Radney Pandeya, and David Van Sanford.

Sally Metz (Monsanto Corp.) gave a presentation on germ plasm issues associated with Roundup Ready wheat. USDA approval for the technology is anticipated in the first quarter of 2005 in spring wheat. Signed agreements between Monsanto and coöperators are required for evaluation of Roundup Ready® wheat.

The remainder of the session focused on setting research priorities for the evaluation of the USDA–ARS wheat germ plasm collection. Disease and insect resistance, quality traits, and reaction to abiotic stresses were all discussed and prioritized in terms of need and expertise to collect the data. Brian Steffenson requested approval to continue his evaluation of wild wheat and barley species. The types of evaluations are unclear. There was no opposition to his request.

The meeting concluded at approximately 10:30 PM., 9 December, 2002.

MINUTES OF THE NATIONAL WHEAT IMPROVEMENT COMMITTEE (NWIC) MEETING.
10 December, 2002.
Cincinnati, OH, USA.

Attendance.

Committee members: Dave Van Sanford (chair), J. Costa (vice-chair), Bob Graybosch, Kim Garland Campbell, David Garvin, Harold Bockelman, Scott Haley, S. Perry, Alan Fritz, Elias Elias, Yue Jin, James Anderson, Joseph Anderson, and Carl Griffey.

Noncommittee members: Kay Walker-Simmons, S. Metz, Robert Bowden, Jim Kolmer, S. Canty, C. Gaines, Jackie Rudd, Bikram Gill, Dave Marshall, and Olin Anderson.

Preliminaries.

The minutes of the January 2002 NWIC meeting were approved as published in the *Annual Wheat Newsletter* (48:7-11).

Annual Wheat Newsletter.

A report on the financial status, publication, and distribution of the *Annual Wheat Newsletter*, submitted by Jon Raupp, was presented by Dave Van Sanford.

Wheat Crop Germplasm Committee.

Kim Garland Campbell gave a summary of the annual meeting of the Wheat Crop Germplasm Committee. Efforts to arrange an English translation of Russian 'Taxonomy of the Triticeae' were described. The work will be published electronically, and printed copies will be published if arrangements can be made. The role of CGC is to advise the USDA–ARS National Small Grain Collection on priorities for the evaluation of germ plasm in the collection.

USDA–ARS FY2003 Report.

Kay Walker-Simmons gave a summary of items in the U.S. Government FY2003 budget affecting wheat research and the ARS budget. All potential cuts of ARS programs have been restored in the present version of the budget, plus $325,000 for a genotyping lab at Raleigh, and funding increases for the Cereal Disease Lab, the scab initiative, the Karnal bunt initiative, and the Western Wheat Quality Lab at Pullman. However, at this writing, nothing is final until the budget is approved, which likely will not occur until January 2003.

Regional reports.

Eastern soft wheat region. Joe Anderson reported the Eastern Wheat Workers met in January 2002 in St. Louis, MO. The number of entries in the Eastern Soft Red Winter Wheat Uniform Performance Nursery will be limited to three per coöperator due to space limitations. Roger Ratcliff, USDA–ARS and Purdue University, was recognized upon his retirement after a successful career working with Hessian fly. Additional ARS staffing changes at Purdue were described. The research group now has nine scientists, six on wheat, including work in virology, Septoria, Hessian fly, and risk assessment of biotechnology.

Spring wheat region. Carl Griffey reported wheat acreage was up but freeze damage had hurt yields; wet weather during planting the autumn of 2002 also has been a problem. The Southern Wheat Workers will hold a meeting in April

in Little Rock, with a field trip to Stuttgart. The Southern Wheat Workers have requested USDA waive restriction on grain from CIMMYT raised in Karnal bunt-free areas and asked that NWIC address this issue. Dave Marshall, newly installed as Research Leader at Raleigh, gave a report on the status of research positions at Raleigh. Dave will focus on leaf rust, powdery mildew and crown rust in wheat, barley, and oats.

Western region. Dan Skinner was appointed the new research leader with the ARS at Washington State. AgriPro will be establishing a new breeding facility in eastern Washington this June. A decrease in wheat acreage has occurred, due to both planting reductions and drought. The next western wheat workers meeting will be around 10 July, 2002, in the Idaho Falls/Aberdeen area. There was a discussion on the eastern European nursery distributed by Oregon State University. Monsanto donated the Hybritech germ plasm to public programs in the region.

Winter wheat region. Scott Haley reported harvested acreage was at a 30 year low; planted acreage was up this autumn. Very dry, hot conditions prevailed last season. Recent events include the rise of a possible new race of leaf rust and the commercialization of Clearfield wheats. The U.S. Congress has approved a hard white wheat market incentive program to increase seeded acres of hard white wheat. The annual breeders' field day was held at Akron, CO; the 2003 field day will be at Bushland, TX, in May. New positions in the region include Dirk Hays in the molecular enhancement of grain quality at College Station, TX. Gayleen Morgan will be assuming a full-time, small grains extension position, also at College Station. At Kansas State, Bob Bowden has assumed the position of Research Leader with the USDA–ARS and will continue research on rusts. Dr. Jim Quick, once a wheat breeder at Colorado State, has announced his retirement from the position of chair of the Department of Crop Science. The recent passing of Dr. Kenny Porter, former wheat breeder at Amarillo, TX, was noted.

Pacific Northwest region. Kim Garland Campbell presented information on changes and conditions in the region. Kulvinder Gill has assumed the Orvil Vogel chair in wheat research at Washington State University. Russel Karow was appointed as chair of the Department of Crop and Soil Science at Oregon State University. Increased funding at the USDA–ARS Western Wheat Quality Lab will allow the addition of a scientist to study Asian food products. Planting acreage increased this year. AgriPro has established a breeding facility near Spokane. Potential collaborative research programs for wheat in central Asian were described.

Northern region. Dave Garvin has filled the USDA–ARS position formerly held by Bob Busch (happy retirement, Bob!) at St. Paul, MN. The position will work on germ plasm enhancement, including disease resistance, and will continue to coördinate the regional nursery. The Cereal Disease lab needs an increase in funding for current positions and facilities. At North Dakota State University, Drs. Maan and Frohberg retired, and Dr. Mohamed Mergoum from CIMMYT has been hired to assume the spring wheat breeding duties. Also at NDSU, Mike Edwards has been appointed as the ARS new research leader. The spring wheat crop acreage remains stable, with recurring problems with scab in the eastern zone. New races of stem rust seem to be appearing.

Elias Elias described staffing changes in the region. Mohamed Mergoum has assumed the position of spring wheat breeder at North Dakota State University, and Xiwen Cai has joined the faculty at NDSU as a wheat cytogeneticist. Steven S. Xu, research geneticist, also joined USDA–ARS at Fargo. Dr. Karl Glover is now the spring wheat breeder at South Dakota State University. Crop conditions in 2002 were variable. Fusarium head blight took most of the crop in the Red River Valley, dry conditions hurt the west, and sprout damage hit the middle. There will be two ARS genotyping positions started at Fargo. Dave Garvin reported on his position with ARS at St. Paul, MN. His duties will include basic research on scab; novel sources of resistance; genetic basis of suppressor effects in *T. turgidum* subsp. *dicoccoides*; stem and leaf rust resistance, especially mapping and genomics of leaf rust-resistance genes; components of wheat grain that will enhance human health, and he will coördinate the Hard Spring Wheat Regional Nurseries. Funding is available to replace Don McVey's (now retired) position in leaf and stem rust, and an offer has been extended. Dr. William Bushnell, plant physiologist, has retired from the Cereal Disease Lab and will be replaced in the spring, pending availability of funding.

IGROW project update.

Bikram Gill reported on the IGROW initiative (International Genome Research on Wheat) and on National Science Foundation funding (or lack thereof) for wheat genomics research. Wheat is not on the NSF priority list at the moment, the only thing coming close is some mention of 'sequencing the gene-rich regions of crop species'. The need for a

national wheat meeting to coördinate wheat research and better its position for increased funding was discussed. It was noted that lobbying, the national wheat research meetings, and a planning workshop should be part of a three-pronged approach to increase research funding for wheat genomics. Kim Campbell motioned that Olin Anderson and Bikram Gill organize a wheat genomics planning workshop. Joe Anderson seconded. Motion passed. Scott Haley, Kim Campbell, and Carl Griffey were appointed to a subcommittee to determine if a national wheat meeting is warranted.

Roundup-ready wheat.

Sally Metz, Monsanto Corp., gave an overview of the status of Roundup Ready Wheat and described the company's necessary milestones before commercialization. These include 1) demonstrating food, feed, and environmental safety and resultant regulatory approvals in the U.S., Canada, and Japan; 2) making sure the appropriate regulatory trade approvals, thresholds, or marketing agreements must be in place in major export markets; 3) appropriating grain-handling protocols must be developed, as well as agronomic stewardship and controling pollen-mediated gene flow; 4) meeting or exceeding industry standards for grain end-use quality in cultivars; and 5) identifying buyers who will procure and use wheat ingredients with biotech traits.

Rust screening at the Cereal Disease Laboratory.

Jim Kolmer reported on the future of rust screening at the Cereal Disease Lab. Don McVey has retired, and a search for his replacement is underway. Future rust screening likely will be limited to lines submitted to the Uniform Regional Nurseries.

Material transfer agreements and germ plasm exchange.

Scott Haley described and discussed CIMMYT's material transfer agreement. CIMMYT may now claims rights to all materials derived from crossing with their materials. The ARS is attempting to negotiate a new MTA to be used between public institutions and CIMMYT. Allan Fritz, Carl Griffey, and Bob Graybosch will form a subcommittee to address Wheat Breeder's Code of Ethics; should it be modified to reflect changing times ?

GrainGenes update.

Olin Anderson reported that the current goal is to try to define the role of GrainGenes in the future and to formalize a way to obtain feedback from users. Site visits are underway to visit specific locations, evaluate the usefulness of GrainGenes, and provide instruction in the operation of the system.

Other business.

Jim Anderson reported on the status license agreements for SSRs from Gatersleben, Germany.

Quality Laboratories. Scott Haley and Charles Gaines provided update on the financial situation and use of new funds.

Genotyping centers. Three labs (Fargo, ND; Manhattan, KS; and Raleigh, NC) now are established but not yet at full funding levels. The laboratory at Pullman, WA, has received no funding.

Karnal Bunt Initiative. The KB initiative is asking for approximately $1.8 million in research funding. The KB initiative has formed an executive committee and an advisory committee that will include growers who will provide oversight and advice to the executive committee. A meeting planned for South Padre Island in March, in association with the Caribbean Section of American Pytopathology Society.

Funding priorities.

Members voted to establish priorities for increase funding in FY2004. In order of priority, these include

1. increased funding for the ARS Wheat Quality Laboratories,
2. increased funding for the ARS Cereal Disease Laboratory,
3. increased funding for the Quality laboratories,
4. funding of the Karnal Bunt Initiative,
5. continued and increased funding for the Scab Initiative,
6. establishment of a sprout tolerance position at Fargo, ND, and
7. establishment of an invasive aphid position at Stillwater, OK.

Building and maintenance initiatives.

The committee voted to support efforts to improve ARS building facilities in the following order of priority:

1. improvements to the Cereal Disease Laboratory,
2. improvements to the National Small Grains Germplasm Research Facility, Aberdeen, ID,
3. the Red River Valley Agricultural Research Center, Fargo, ND, and
4. the ARS Research Facility, Pullman, WA.

Announcements.

Jim Anderson moved we meet again with the Scab Forum; Dave Garvin seconded. Motion passed. The NWIC will meet 15–16 December, 2003, in Minneapolis, Minnesota.

R. Graybosch, Secretary, NWIC.

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January, 2003.

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WHEAT WORKER'S CODE OF ETHICS

This seed is being distributed in accordance with the 'Wheat Workers' Code of Ethics for Distribution of Germ Plasm', developed and adopted by the National Wheat Improvement Committee on 5 November, 1994. Acceptance of this seed constitutes agreement.

1. The originating breeder, institution, or company has certain rights to the material. These rights are not waived with the distribution of seeds or plant material but remain with the originator.

2. The recipient of unreleased seeds or plant material shall make no secondary distributions of the germ plasm without the permission of the owner/breeder.

3. The owner/breeder in distributing seeds or other propagating material grants permission for its use in tests under the recipient's control or as a parent for making crosses from which selections will be made. Uses for which written approval of the owner/breeder is required include:

   (a) Testing in regional or international nurseries;
   (b) Increase and release as a cultivar;
   (c) Reselection from within the stock;
   (d) Use as a parent of a commercial F1 hybrid, synthetic, or multiline cultivar;
   (e) Use as a recurrent parent in backcrossing;
   (f) Mutation breeding;
   (g) Selection of somaclonal variants; or
   (h) Use as a recipient parent for asexual gene transfer, including gene transfer using molecular genetic techniques.

4. Plant materials of this nature entered in crop cultivar trials shall not be used for seed increase. Reasonable precautions to ensure retention or recovery of plant materials at harvest shall be taken.

II. PUBLICATIONS & ANNOUNCEMENTS

New publication: *Wheat Near-Isogenic Lines* by N. Watanabe, S.F. Koval, and V.S. Koval.

Near-isogenic lines are the most convenient objects for a wide range of biological and agricultural experiments. Many achievements in the fields of plant immunity and pest resistance became possible only due to substitution of conventional testers with NILs. The information on NILs is scattered over numerous (and frequently poorly accessible) issues. Therefore, the demand for a guide of NILs impelled the authors to prepare this monograph.

The monograph begins with a treatment of methodological issues, including strategies for breeding NILs, selection of donors, and correction of their residual genetic contamination. The problems of stability and principles of preservation of NILs in gene banks are discussed. The NILs of the soft wheat Novosibirskaya 67 (S.F. Koval), Saratovskaya 29 (V.A. Krupnov and O.I. Maistrenko), *Vrn*-marked lines from Odessa (A.F. Stel'makh), and various NILs bred at the Institute for Plant Industry in St. Petersburg (A.F. Merezhko, O.P. Mirtofanova, and I.G. Odintsova) are described in detail. Near-isogenic lines of durum wheat, including those bred in Gifu, Japan (N. Watanabe), also are characterized. Numerous tables from the original publications of different authors are included to provide the reader with the characteristics of particular series of lines.

The monograph is intended for a wide range of readers–university and agricultural college students, plant breeders, agrochemists, geneticists, and molecular biologists.

Wheat Near-Isogenic Lines, 156 pp, printed and published by Sankeiha, 2-24-1 Nakamaru-cho, Kita-ku, Nagoya 462-0056, Japan, ISBN 4-88361-131-0, is available upon request from the author at Faculty of Agriculture, Gifu University, Gifu 501-1193, Japan or by E-mail to watnb@cc.gifu-u.ac.jp.

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Update on IGROW (International Genome Research On Wheat).

Bikram S. Gill, the Wheat Genetics Resource Center, Plant Pathology Department, Kansas State University, Manhattan, KS 66506-5502, USA.

I introduced IGROW in the 2002 *Annual Wheat Newsletter* (Vol. 48). I shall begin by reiterating the vision of IGROW, which is to

- create a knowledge base on the genetics and biology of wheat plant,
- sustain wheat genetic infrastructure and resources, and
- serve as a platform for all wheat stakeholders.

Our immediate, urgent goal is to generate a draft sequence of the gene-rich regions of the wheat genome. Many people on behalf of IGROW have been very active in support of this mandate. I would like to update the activities of IGROW since mid-summer of 2002.

An important milestone last year was a series of meetings sponsored and/or organized by the interagency working group on plant genomes to decide on research priorties for the National Plant Genome Initiative (NPGI) for the next 5 years (2003–08). It should be noted that the first 5 years of NPGI-driven research, together with international initiatives and collaboration, has produced the complete genome sequences of *Arabidopsis* and rice, and EST resources for the major crop plants (http:/www.ncbi.nlm.nih.gov/dbEST). The National Academy of Sciences organized a workshop on the NPGI in June 2002 (The National Plant Genomes Initiative objectives for 2003–08 NRC Report are available online at http://www.nap.edu). The USDA–CSREES organized a stakeholders workshop on 'Plants and Pest Biology' in November 2002, where I represented IGROW, ASA–CSSA, and the National Wheat Improvement Council (NWIC). Rudi Appels, Dave Van Sanford (NWIC), Cal Qualset, and NAWG (National Association of Wheat Growers) provided statements supporting wheat genomics research (available at http://www.nap.aspb.org/publicaffairs/stakeholders/) . We discussed the IGROW mission at the U.S. Wheat Scab Initiative and NWIC meetings in December 2002. The culmination was a NWIC delegation led by David Van Sanford who visited the NSF to make a case for sequencing the wheat genome. Rudi Appels organized an IGROW meeting of international collaborators in San Diego in January 2003. These efforts have borne fruit, although we have a long way to go. The final report of the Interagency Working Group on objectives for 2003–08 was released in January 2003 (available online at http://ostp.gov/NSTC/html/NSTC_Home.html). Although the targeted species are rice and maize, the report mentions allocation of funds for 'highly accurate draft sequences of gene rich regions of several key plant species.' Also mentioned is IGROW, among others, as a part of an established network of international collaborations to advance genomics of various plant species. More important, both the USDA and NSF have agreed to sponsor a 'Workshop on Wheat Genome Sequencing' to be held on 9–11 November, 2003, in Washington D.C. (for more information contact bsgill@ksu.edu). This workshop will be preceded by a wheat genomics session in Italy during the 10th International Wheat Genetics Symposium 1–5 September, 2003 and is being organized by Rudi Appels, Olin Anderson, and Daryl Somers. The upshot of all these activities will be a document to be published by January 2004 that will provide a blueprint of an international plan for the sequencing of the wheat genome. Then, we can go to bat to seek funds for putting the plan in action.

In preparation for the workshop, we are required to take an inventory of the wheat genetic infrastructure and resources. We will soon be contacting you for information.

In the meantime, wheat genomics research is moving forward. The year 2003 was the last of a 4-year project funded by the NSF involving 10 universities on 'Structure and function of the expressed portion of the wheat genomes' (lead PI Cal Qualset, University of California, Davis) (http://wheat.pw.usda.gov/cgi-bin/westsql/map_locus.cgi). As a result of this project and ongoing work elsewhere, wheat now ranks number one in plants with over 400,000 ESTs (http:/www.ncbi.nlm.nih.gov/dbEST) and also is the most densely mapped genome with over 20,000 EST loci mapped on the 21 chromosomes of wheat (see project website). Another NSF-funded project entitled 'Insular organization of the D genome of wheat' (lead PI Jan Dvorak, University of California, Davis) is constructing a global BAC-contig map of the D genome of wheat that is anchored to the EST physical map of D-genome chromosomes (project website: http://wheat.pw.usda.gov/PhysicalMapping). Jorge Dubcovsky is a lead PI (University of California, Davis) on a USDA–IFAFS project 'Bringing Genomics to the Wheat Fields,' which involves most of the public-breeding programs in the U.S. (project website: http://maswheat.ucdavis.edu/Production.htm). Congratulations to Jan Dvorak and Shahryar Kianian (North Dakota State University,Fargo) for winning awards for virtual wheat center proposals in 2003 from the highly competitive NSF Crop Genome Research Program. Dvorak proposal will establish a virtual center at UC Davis in

wheat SNPs, a new generation of markers. Shahryar's proposal will establish a virtual center in wheat mutagenesis and functional genomics at NDSU in Fargo. The abovementioned proposals are not only producing resources for the wheat genetics community, but have done much to bolster the position of wheat as a genetic model to those who view it just a commodity.

However, from the tone of discussions in prioritization process of the NPGI, it became clear that many in the scientific academic community view wheat as lacking in a vibrant genetics community and, thus, not worthy of major effort as a plant genetic model. They cite the maize genetics community who hold a large annual meeting once a year and use the *Maize Newsletter* as a research vehicle for the good of the genetics community. Historically, wheat genetics pioneers, including the late E.R. Sears, R. Riley, H. Kihara, and others who have retired (C. Law, E. Kerber, K. Tsunewaki, S. Maan, and R. McIntosh) were aware of this problem. They selected Chinese Spring as a genetic model, and started the tradition of international wheat genetics symposia beginning in 1958. This symposium is held every 5 years and in conjunction with the International Genetics Congress (although at different sites but within a span of 1–2 weeks between the two meetings) so that those wheat geneticists who wished to attend the International Genetics Congress were able to represent wheat genetics to the wider community. This real or perceived problem or lack of a more integrated and organized wheat genetics community was discussed at the NWIC meeting last year and already there is a plan to hold a national wheat workers meeting in February 2004 in Kansas City.

What else can we do? I think we have a window of opportunity to work as a more cohesive group as we move into wheat functional genomics research that will involve production and evaluation of a vast number of mutants in different ploidy wheats. These mutant resources will have to be screened for a variety of traits under diverse growth conditions and treatments. The genetic lesions underlying the targeted trait will have to be identified and relevant genes discovered rountinely in a community-wide effort. Herein then, we have an opportunity to involve diverse types of wheat expertise on a focused program, publish preliminary findings and insights in a vehicle such as the this *Newsletter*, and in the process transform it into a research vehicle in the service of wheat genetics community. On a final note, 2003 will go down as a milestone year with the reported cloning of *Lr21* (Huang et al. 2003) and *Lr10* and *Pm3b* (Beat Keller personal communication) genes and the identification of candidate clones for the *VRN1* (vernalization, Yan et al. 2003) and *Q* (square spike, Faris et al. 2003) traits.

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